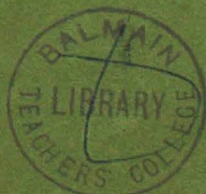
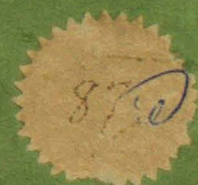


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Educational Pamphlets, No. 24.

THE MONTESSORI SYSTEM OF EDUCATION.



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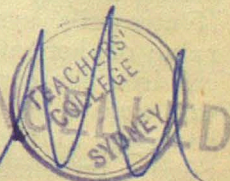
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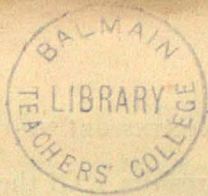
PREFATORY NOTE.

It is a commonplace in education, as in other spheres of human experience, that the truths which have been reached by past generations must, if they are not to end in empty formalism, be re-discovered and re-stated by each successive one. Probably in no age have there been such widespread efforts to readjust educational practice to new conditions as at present. All traditional theories are subjected to examination, the ancient studies are reinforced by new disciplines, organisation is extended and the opportunities for creating new modes of education are enlarged. The sentimental changes of the last century, which earned for it its title of the Children's Century, are giving place to the methods of more exact experiment borrowed from the practice of the experimental sciences. Old accepted truths are stated in a new fashion and in language at once cryptic and repellent through its attempted precision.

It was but natural that the abandonment of the old beaten tracks of traditional practice and national custom should lead to many extravagant experiments, some of which died of their own eccentricity. The general welcome, however, which has been extended from various parts of the world to Madame Montessori's system seems to imply a recognition of the value of her attempt to apply to the education of normal children the experience she had gained in dealing with those that were defective. Further psychological analysis is perhaps necessary to determine the relationship of her ideas to those of Séguin, on whose methods her principles are based. Further experiment under varying conditions is also required to establish what principles are of universal application and to discover to what extent local and personal conditions have contributed to the success of the schools in Rome.

In the meantime the Board believes that this account by Mr. Holmes will interest those who care for problems of early education, and will serve as an introduction to Madame Montessori's own book. Mr. Holmes' known advocacy of unfettered childhood is a sufficient guarantee that this report is a faithful interpretation of the system. It will be understood that the Board do not necessarily endorse the opinions expressed by the author, for which he alone is responsible.

Office of Special Inquiries and Reports,
October, 1912.



THE MONTESSORI SYSTEM OF EDUCATION.

Thanks to the good offices of Sir Rennell Rodd, the British Ambassador, and of Mr. S. Godolphin Osborne, one of the attachés to the Embassy, I was introduced to the Dottoressa Montessori during my stay in Rome in March 1911, and allowed to visit some of the schools in which her system is at work. The Dottoressa cannot speak English, and I cannot speak Italian, but we found two kind and helpful interpreters in the persons of Signora Maraini Guerriere-Gonzaga, and Direttrice Giulia Galli-Saccente. One or other of these ladies met me at every school that I visited. I visited five schools in all, viz. :—

- (1) The school of S. Angelo in Pescheria (Direttrice Galli-Saccenti's own school), an upper school for girls, in which the lowest class of all is taught on the Montessori system :
- (2) An infant school attached to the Franciscan Monastery in the Via Giusti :
- (3) The Casa dei Bambini di Pincio—a school for the children of well-to-do parents :
- (4) Two tenement infant schools in the thickly-peopled district beyond the Porta S. Lorenzo.

THE PRINCIPLE OF THE MONTESSORI SYSTEM.

An educational system is a compound of two elements which, though distinct from, are always interpenetrating, one another—the more impersonal element, which we call its *principle*, and the more personal element, which we call its *method*. The educationalist who firmly believes in the master principle of his system, whatever that may be, must regard it as intrinsically sound and true, and therefore as universally valid, and must look forward to its ultimate triumph. But the educationalist who believes in the universal validity of his method, and who would impose it, in all its detail, on every school and every teacher, without regard either to the circumstances of the school or to the personality of the teacher, must be a fanatic and a bigot, and must be quite out of touch with the principle that is or ought to be the life and soul of his method, a method which he evidently values as machinery rather than as the embodiment of vital truth.

In the case of the Montessori system it is all-important that the distinction between principle and method should be kept steadily in view. For the method is so entirely the embodiment of the principle that the use of the former by one who had not fully grasped the significance of the latter could scarcely fail to

lead to disastrous results. Of the schools that I visited in Rome, in which the Montessori system was supposed to be at work, there was one in which the Direttrice had got hold of some details of Dottressa Montessori's method, without having any sympathy with or understanding of her principle, and the results were so comically bad that a frank abandonment of the whole system was obviously the only remedy for the more glaring defects of the school.

There is, however, no system in which method can be so profitably studied as in that which Dottressa Montessori has evolved. It is always both interesting and helpful to see how the educationalist who has worked his way to a certain principle has carried it into, and embodied it in, the details of his method. Indeed, it is only through a careful study of the method that the full significance of the principle can be apprehended by the student. But when the principle which dominates a system has gradually disclosed itself to the educationalist in the course of his (or her) elaboration and practical application of a certain method; when there has been, as it were, continuous reciprocal action between the principle and the method, in virtue of which each has helped forward the evolution of the other, then there is obviously urgent need for the method to be carefully studied if the principle is to be really grasped. And this reciprocal action between method and principle is, I think, of the essence, both logically and historically, of the Montessori system.

The master-principle of the Montessori system is that of *self-education*. Dottressa Montessori believes that childhood is the time when growth, under all its aspects, is most vigorous, most rapid, and most easily helped or hindered. She believes that the function of education is to help growth, to give it free play, to encourage it, to stimulate it, to lead the fountain of life into suitable channels, or rather to help it to shape suitable channels for itself. She realises that the business of growing must be done by the growing child, and cannot be delegated by him to his teacher or anyone else. And she infers from this that the teacher, instead of doing everything or nearly everything for the child, should do as little as possible, should stand aside, so to speak, and efface herself, giving the child such guidance and stimulus as he may need, and providing him with suitable materials, but leaving him free to exercise his own faculties, and relieving him from the pressure of vexatious interference and arbitrary constraint. In other words, she has broken away from the "orthodox" system of education, in which a dogmatic attitude on the part of the teacher is met by mechanical obedience on the part of the child; and she proposes to substitute for it a régime of freedom for the child, in which his love of rational activity, his desire to do things for himself, his joy in overcoming difficulties, shall be met and ministered to by judicious and sympathetic guidance on the part of his teacher.

This idea, which now dominates the Montessori system, did not spring in a moment, in full panoply, from Dottoressa Montessori's brain. She worked her way to it gradually, and with a slowly dawning consciousness of its meaning and value, by more than one line of approach. Dottoressa Montessori is the first woman to whom the degree of Doctor of Medicine was granted by the University of Rome. As assistant doctor in the Clinic of Psychiatry, she took a special interest in the care of the mentally deficient; and some lectures which she gave on this subject at Rome led to the foundation of the Scuola Ortofrenica (mind-straightening school) for feeble-minded children, of which institution she was directress for more than two years (1898 to 1900). The results which she there achieved were so remarkable that they seemed to border on the miraculous. The feeble-minded children—"idiots" as she calls them—were taught to read and write with such success that they were able to pass the same examinations that normal children of their ages were expected to pass at the public schools. How were these results achieved? The explanation of the mystery shall be given in Dottoressa Montessori's own words:—

"The boys from the asylums had been able to compete with the normal children only because they had been taught in a different way. They had been helped in their psychic development, and the normal children had, instead, been suffocated, held back. I found myself thinking that if, some day, the special education which had developed these idiot children in such a marvellous fashion, could be applied to the development of normal children, the "miracle" of which my friends talked would no longer be possible. The abyss between the inferior mentality of the idiot and that of the normal brain can never be bridged if the normal child has reached his full development. While everyone was admiring the progress of my idiots, I was searching for the reasons which could keep the happy healthy children of the common schools on so low a plane that they could be equalled in tests of intelligence by my unfortunate pupils."*

In the feeble-minded child it is obvious that growth has been arrested, or at any rate grievously retarded and enfeebled, and it is therefore natural that the mind of the teacher should turn towards the fostering of growth, the re-kindling of the flickering flame of inward life, rather than towards the production of outward "results." Then, again, the feeble-minded child makes so poor a response to the formal dogmatic methods of teaching which are pursued in the ordinary school, that those methods have perforce to be abandoned in his case, if any progress is to be made. Above all, his constitutional inability to profit by the "abstract, literary" education which children usually receive, has made it inevitable that systematic manual training (with all that this implies) should become the central feature in his curriculum. For this, and for other reasons, it was predestined that the education of the feeble-minded should, sooner or later, take a widely different course from that which

* Montessori (Mario), *The Montessori Method*, Translated from the Italian by Anne E. George. (London: Heinemann, 1912), pp. 38 and 39.

has hitherto been regarded as orthodox in the case of normal children, that it should become more practical, more informal, more concerned with what is inward and vital, more considerate of individuality, more willing to study the child's point of view, more ready to help him to help himself. All these considerations would have weighed with Dottoressa Montessori even if she had not been deeply influenced by Séguin's "*Traitement moral, hygiène et éducation des idiots*"; but on her own showing it was that book and the "admirable experiments" of Itard, which, "giving precision and certainty to ideas already germinating" in her mind, led to her adopting, in the Scuola Ortofrenica, the revolutionary methods that produced the results of which I have already spoken.

* In 1900 Dottoressa Montessori left the Scuola Ortofrenica, and returned to the University of Rome as a student of philosophy. For some years she devoted herself to the study of experimental psychology in general, and the psychology of childhood in particular. In other words, she became a votary of what, in our Training Colleges, is called "child study," and in that capacity she visited all the primary schools within her reach, and studied their methods and arrangements. It did not take her long to realise that in the ordinary school "child study" is rendered unprofitable by the dogmatic attitude which the teacher normally adopts. The doings of the young child can have little or no significance for the observer, so long as they are merely his response to detailed directions given him by his teacher. The child who sits still because he is told to sit still, who folds his arms because he is told to fold them, who does this thing and that thing in obedience to his teacher's orders, who repeats this thing and that thing after his teacher, is not a fit subject for child study. The range of free action which his school life allows him is so small, that the observer, however skilful and sympathetic, can discover but few indications of the real bent of his nature. If child study is to be profitable, freedom must be given to the child. His sayings and doings are of interest to the observer in proportion as they are spontaneous and natural. In other words, if "experimental pedagogy" is to become possible, the child must be allowed to express himself freely in as many directions as possible, and the restraint to which he is at present subjected must be reduced to a minimum. That Dottoressa Montessori's interest in the psychology of childhood would sooner or later have led her to this conclusion may be taken for granted; and from this conclusion to the master principle of her system the way is open and direct.

We see, then, that Dottoressa Montessori worked her way towards the idea of self-education, first along the line of practical teaching, and then along the line of psychological research. There must be something wrong, she argued, with a system of education which did so little for its pupils that they could not outstrip the poor mentally deficient children whom she had

trained in the Scuola Ortofrenica ; and there must be something wrong with a system which made its pupils so puppet-like and unnatural that a careful study of their ways and works yielded no result of value to the psychological observer. And the something which was wrong with the conventional system of education was (she concluded) that it was formal and dogmatic, and therefore repressive and constrictive ; that it "held back" instead of "helping psychical development" ; that it left little or nothing to the child's freedom and initiative, and was therefore predestined to arrest his growth, and even to "suffocate" his life.

For seven years Dottoressa Montessori pursued her psychological studies and researches. Then she was given the control of some "tenement" infant schools which were being established in one of the poorer regions of Rome, and was thus enabled to apply her educational theories to the training of normal children. The idea of taking an infant school to the poor inhabitants of a block of flats, instead of compelling the parents to send their *bambini* to a more or less remote infant school, is a good one, and the experiment deserves to be carefully studied. A full account of it is given in an article by Miss Tozier on the Montessori system in McClure's Magazine for May 1911 ; and as my concern is with the Montessori system rather than with the "Casa dei Bambini" experiment, I must content myself with referring those of my readers who may wish to know more about that experiment, to Miss Tozier's interesting article. I gather from what I was told at Rome that the tenement infant schools are no longer under Dottoressa Montessori's direct control ; and my own experience bears this out. It was in a tenement school that I saw the travesty of the Montessori system of which I have already spoken ; and it was outside the tenement schools that I saw the system to the best advantage, namely, in the lowest class of the girls' school of S. Angelo in Pescheria, where the system had been at work for barely two months, and in the infant school attached to the Franciscan Convent, where the system had been at work for about three months.

THE MONTESSORI METHOD.

Having expounded Dottoressa Montessori's leading principle, I will now say something as to her method. So far, her system has not been applied to the education of children above the age of seven or eight. In my opinion, its principle is applicable to children of all ages, and will bear its best fruits in the higher classes of the schools for older children. But this immense field is as yet virgin soil for Dottoressa Montessori, though it will not be long, I predict, before she is driven, not only by her own thoughts and studies, but also and more especially by the expansive force of her revolutionary principle, to try her hand at tilling it.* But for the present the system is at work among

* Dottoressa Montessori has recently started an experimental class for older children.

the *bambini* of Rome—children between the ages of three and seven; and its leading features have been determined by the needs of its youthful clients.

The method which Dottoressa Montessori has elaborated is, in brief, that by which children between the ages of three and seven will best be enabled to educate themselves. For the idea of self-education is now the Alpha and Omega of her system. The freedom which is given to the child, even from his tenderest years, is complete, the only limit imposed upon it, a limit which seems to be almost always respected, being that no child shall use his freedom to hurt or incommode others.* There are no time-tables in the school, no set lessons, no classes. Each child is doing what, for the time being, pleases him best. When he is admitted into the school, he sees small groups of children playing at various "games" (for so he doubtless regards them), and he joins the group which happens to take his fancy. Then and there his education begins. All kinds of interesting "occupations" are going on in the schoolroom; and wherever he goes he will get help and guidance from the teachers. If he gets tired of "playing" at this thing, he goes off and plays at that. But he is never idle; for whatever he does interests him, and though he may feel that he has had enough of this or that occupation at such and such an hour, he will return to it either the same or the next day, with increased zest.

It will be understood, then, that when I speak of the Montessori teacher "training" the senses of the children, or "teaching" them reading or writing or whatever it may be, I am not using the words "training" and "teaching" in the sense which they usually bear. Strictly speaking, the teacher does not train or teach the children; but she gives them endless opportunities and ample facilities for training and teaching themselves.

I have said that Dottoressa Montessori's first successes were achieved with "idiots" (or feeble-minded children); and that her own explanation of her success was that her method helped "the children in their psychical development instead of holding them back." It was inevitable, then, that when she was allowed to try her hand at the education of normal children, she should apply to them, *mutatis mutandis*, the method which had done so much for the development of her poor feeble-minded children. And what made that method specially applicable to her normal pupils was that they were all, as we have seen, of very tender years. I read in the Annual Report for 1909 of the Chief Medical Officer of the Board of Education that "the mentally defective child is abnormal in that his brain remains in the child-like condition of being able to do little more than receive sensory impressions by objective means. He can form ideas of things and movements, but he fails to combine and contrast, to associate and

* See footnote to p. 20.

to judge. Symbolical concepts do not come to him, and he is unable to draw analogies. . . . If, therefore, the question as to his educability is to be established, some avenue is necessary by which his brain can be reached by impressions derived from, and leading to, motor activity, and the readiest of these are naturally the movements set out in a well-organised scheme of manual occupations suitably correlated with speech and language training.* I gather from this paragraph that the mentally defective child of eleven or twelve (let us say) is on a par, in respect of his mental development, with a normal child of from three to six, and I may surely infer from this that a method which has done wonders, when applied to "defectives" of eleven or twelve, will probably produce good results when applied with suitable modifications to normal children of three to six. That this is a reasonable inference the striking success of the Montessori system in the normal infant school has amply proved.

Before I attempt to describe the procedure in a Montessori school, I will say something as to its equipment. The children are provided with light and comfortable chairs, which are easily moved about. There are also rugs, laid on the floor, for them to sit, kneel or recline upon, should they prefer those attitudes. As I have already explained, freedom is given to the child in the fullest possible measure; and as freedom includes freedom of movement, there is no need for any child to remain in any position a minute longer than he desires. Low and light tables are provided in abundance, but there is also plenty of open floor-space, and many of the "occupations" are carried on on the floor. The apparatus which is at the service of the children is extensive and varied, and is the outcome of years of thinking, planning and experimenting on the part of Dottressa Montessori. It is procurable from the Societa Umanitaria, Casa di Lavoro, Milan. There are no fewer than 26 separate items, and the complete equipment costs 290 lire, or about 11*l.* 12*s.* 0*d.*, exclusive of the cost of carriage.†

THE WORK OF THE SCHOOL—TRAINING OF THE SENSES.

* The training of the bodily senses is the first stage in the education of the infant in a Montessori school. A start is made with the sense of *touch*. This, the first developed of the bodily senses, is also the first to be dulled if left uncultivated. The child is shown how to touch, *i.e.*, how to pass his fingers *very lightly* over a surface. He is then given strips of smooth paper, alternating with strips of emery paper of various degrees of roughness. He passes his fingers over these, distinguishes between the rough and the smooth and is taught the words *rough* and *smooth*.

* Board of Education. Annual Report for 1909 of the Chief Medical Officer, p. 159. (London: Wyman & Sons, 1910.)

† It is hoped that the apparatus will shortly be manufactured in this country, and that then the cost of it will not exceed 7*l.* or at most 8*l.*

How to equip

From this simple beginning the training of the sense of touch, by means of appropriate apparatus is carried so far, that the children when blind-folded, are able to discriminate very subtle gradations of texture in stuffs, papers, &c., very slight differences in weight, and other fine distinctions, such as that between a grain of millet and a grain of rice. This sensitiveness is developed through the medium of games, in which each child in turn is blind-folded, and given things to distinguish and name, while his companions sit round, watching his movements, and waiting, with eager interest, to see whether he will succeed or fail.

The training of the sense of touch takes other and more practical forms. The child learns to tie and untie bows of ribbon, to fasten and unfasten buttons and loops, buttons and button-holes, hooks and eyes, and to make various other fastenings and unfastenings which he can turn to account when he is dressing and undressing himself.

In the perception of *form* the senses of touch and sight may be said to co-operate; and the training of the sense of form is therefore a vital part of the Montessori system.

A beginning is made with the sense of dimension, the training of which is carried on side by side with the training of the sense of *rough* and *smooth*. The material used consists of three frames of solid inlays, each frame containing 10 cylinders. In the first frame the cylinders are all of one height, but differ in diameter. In the second their heights vary, but their diameters are all equal. In the third both their heights and their diameters vary. The cylinders are taken out of the frame, mixed together, and then put back by the children in their right places. So simple is this exercise that children under two years of age have been known to do it correctly.

Mistakes, when made, correct themselves, for each cylinder has its own hole to go into, and cannot fit into any other. For the older children all the 30 cylinders are mixed together, and then sorted, the children being sometimes blind-folded when they do this.

As the child was taught the words *rough* and *smooth* when his sense of touch was being exercised, so he is now taught the words *thick* and *thin*, *high* and *low*, and *large* and *small*, and he is taught to use them accurately, *e.g.*, to discriminate between *thick* and *large*, between *low* and *small* and so on. Language training is indeed worked in with all the exercises, the qualities of the materials which the child uses—or rather such qualities as are of immediate interest to him—being named to him and by him, till he has learned to associate the quality with the name.

Other exercises in the perception of dimension are carried out with bricks, some of which are wooden cubes getting gradually *smaller* as the child builds a tower, while others of oblong shape get gradually *thinner* as he builds a kind of

staircase. The perception of length is taught by means of striped poles (also used for counting), the shortest pole measuring a decimetre and the longest a metre.

We now come to the training of the sense of form, in the stricter sense of the word. This is done by means of flat wooden inlays of various geometrical shapes, which fit into their respective frames. These are taken out and mixed up, and the child then puts them back into their places, mistakes being self-correcting as in the cylinder game. While he is doing this he is taught the names of the most strongly contrasting forms, *e.g.*, *square* and *round*, and then the names of analogous forms, *e.g.*, *oblong* and *oval*. From the first he is taught to pass his finger over the outlines of the frames, as well as the inlays, for perception of form, and the memory of it, are helped by the association of the tactile-muscular sense. Sometimes the child picks out and names the various forms with his eyes shut, children of four being able to do this rapidly and correctly.

We now come to the sense of *colour*. This is trained chiefly by means of coloured silks of graduated shades wound round card tablets. There are eight shades of each of eight colours, with two examples of each, making 128 tablets in all. The teacher places before the child two or three well contrasted colours, choosing bright shades, and tells him to find the companion shade to each, and this is continued until the child can arrange all the eight colours in pairs. Then he is given the more delicate shades to match, and the two or three shades of one colour are placed before him in gradation, and he learns what is meant by *light* and *dark*. He keeps on practising until he can arrange all the eight colours in their respective gradations. Most children are fascinated by this exercise, and some of them soon become very skilful at it.

The sense of *hearing* is also carefully trained, and one of the ways of training it is what Dottressa Montessori calls "the game of Silence." The word "*Silenzio*" is written up on the blackboard. In an instant the babel of voices is hushed, and the children, one and all, become perfectly silent and still. Then the room is partially darkened; and the teacher calls out the children, one by one, saying each name in turn in a faint whisper. One by one the children come out and go up to the teacher, moving as noiselessly as possible, so as not to break the spell of silence which has fallen upon the school. When about a dozen children have been collected round the teacher, the shutters are opened, the word "*Silenzio*" is effaced, the game is over, and the little tongues begin to wag again. This game, besides training the sense of hearing, is an excellent sedative for the nerves, tending as it does to calm the undue excitability which the free activity of the children might perhaps have produced. The children enjoy the game so much that they sometimes ask for it twice in the day.

Perception of graduated sounds is taught by means of cylinders containing fragments of stones of various sizes, from

large fragments down to small. The children rattle the cylinders and learn to know by the sound how large are the fragments in each cylinder, and they then arrange them according to their degrees of sound and therefore according to the sizes of the fragments that they contain.

While the senses are being trained in this and in other ways, the children are, as I have already explained, learning to use their mother tongue. Almost every "lesson" in the infant school is also a language lesson. Exercises in articulation are also part of the "Curriculum" of the newly-admitted infant, and will be turned to account in due season.

CONTROL OF THE LIMBS AND OF THE MOVEMENTS OF THE BODY.

* The training of the senses is not the only kind of physical training which the children receive. They also learn to use their limbs with ease and grace, and to acquire a general control of the movements of their bodies. I have spoken about the equipment of the schools. The chairs and tables are, as a rule, so light and so movable that the use of them in an ordinary school would probably lead to noise and disorder. But it has not this effect in a Montessori school. The preference for heavy, immovable furniture, which has become a tradition in most schools, is really a confession of weakness. Dottoressa Montessori thinks that, owing to the ease with which it can be moved about and overturned, light school furniture has an educative value which the heavy furniture necessarily lacks. To quote her own words: "Our little tables and our various types of chairs are all light and easily transported, and we permit the child to *select* the position which he finds most comfortable. He can *make himself comfortable* as well as seat himself in his own place. And this freedom is not only an external sign of liberty, but a means of education. If by an awkward movement a child upsets a chair, which falls noisily to the floor, he will have an evident proof of his incapacity; the same movement, had it taken place amid stationary benches, would have remained unnoticed by him. Thus the child has some means by which he can correct himself, and having done so he will have before him the actual proof of the power he has gained: the little tables and chairs remain firm and silent each in its own place. It is plainly seen that the *child has learnt to command his movements.*"

The same lesson is taught by other means. Where Dssa. Montessori has control of a school (or a "Children's House") out of as well as in school hours, provision is made for the training of the body in various useful and practical ways. We have seen that the children learn to use their fingers for such purposes as the tying and untying of bows, the fastening and unfastening of buttons and button-holes, hooks and eyes, &c., and that they thus acquire the power of dressing and undressing

themselves. They also learn to wash themselves,—with remarkable thoroughness, if I may judge from the almost brilliant cleanliness of their hands and faces,—to clean and make tidy the rooms in which they live, to dust the furniture and other movables, to make their beds, to lay the tables for meals, and to wait on one another while meals are being taken. In the Franciscan Convent School in the Via Giusti a midday meal is a recognised part of the school programme. Two of the children eat this meal by themselves, while their companions are engaged in laying the table-covers, carrying the plates, knives, forks, spoons, and glasses to the tables, and putting them in their places. When this has been done the two children who have dined get up and wait on the others, carrying round the soup and other dishes, and helping those who are still too young to help themselves.

The general effect of all this bodily training is to enable the children to move about with ease and freedom, and to give them a graceful carriage as well as a deftness of hand which will be found useful when writing and kindred accomplishments have to be mastered.

WRITING AND READING.

Without knowing it the child is being prepared for writing from the very day he enters the school. We have seen how he learns to distinguish the different forms by his sense of touch as well as by his sense of sight. His next step is to touch the various letters, which are made of emery paper gummed on to cardboard. When touching these he passes his finger all over them and makes the actual movement that he will make later on when writing. But this is not enough. He must learn to wield a pencil or crayon so that when he is ready to write he will have acquired full control of his instrument. He begins by colouring with a crayon circles, ovals, triangles, and other forms, using for the purpose the tables with moveable insets which have been already described. Having learnt to colour the figures properly under the control of the frames, he then tries his hand at colouring figures which have only a pencilled outline—an outline which he himself has drawn by putting one of the metal inlays on a piece of paper and following its contour with a crayon or a coloured pencil. Little by little he learns to keep his lines of colour within the pencilled outline and to make them long and parallel, and so to lay on the colour smoothly and evenly, until at last he has control of his instrument and is ready to write.

Even after he has begun to write, these pencilling and colouring exercises are persisted in, the designs being made more and more difficult so that he may perfect his mastery of his pen or pencil.

Meanwhile he has been learning the names and sounds of the letters, having begun to do this as soon as he began to

touch the letters. He learns the vowels first and then the consonants. With the sound of each vowel a consonant sound is at once united and a syllable is thus formed, *e.g.*, the teacher points to the letter *i* and says (1) This is *i*; (2) Give me *i*; (3) What is this? (Answer *i*). Then the sound of *m* or *s* is prefixed to that of *i*, and so we get *mi*, *si*. If a child fails to recognise a letter which he has learned, it is found that as soon as he *touches* it, the memory of its name almost invariably comes back to him.

In this way the beginnings of reading are taught, along with those of writing, though, as reading is a more purely intellectual exercise than writing, the child is naturally slower in mastering it.

For the composing or building up of words, which may be begun before all the letters are known, cut-out paper letters are used, the vowels being blue and the consonants pink. The teacher pronounces a word very clearly, dwelling on the sound, and the child eagerly picks out the required letters from the box. When he puts them back in the box he has to find the right places for them, and all this helps to make him familiar with the look of the various letters. While he is "composing," the child almost invariably moves his lips, repeating the component sounds to himself, sometimes a dozen times over. After a little practice he is able to "compose" or "decompose" any word, provided that it is pronounced clearly by the teacher, and written phonetically, as Italian words always are.

By the time that the fingers of the child have been trained by the crayon work which has been described, that his eyes and fingers have become accustomed to the forms, and his ears to the sounds, of some at least of the letters, and that he has had some practice at building up and breaking up words, he has acquired the power of writing words, without having written a single letter. Dottressa Montessori has told us how her little pupils suddenly discovered that they were able to write.

"One beautiful December day when the sun shone and the air was like spring, I went up on the roof with the children. They were playing freely about, and a number of them were gathered about me. I was sitting near a chimney, and said to a little five-year old boy who sat beside me, 'Draw me a picture of this chimney,' giving him as I spoke a piece of chalk. He got down obediently and made a rough sketch of the chimney on the tiles which formed the floor of this roof terrace. As is my custom with little children, I encouraged him, praising his work. The child looked at me, smiled, remained for a moment as if on the point of bursting into some joyous act, and then cried out, 'I can write! I can write!' and kneeling down again he wrote on the pavement the word 'hand.' Then, full of enthusiasm, he wrote also 'chimney,' 'roof.' As he wrote, he continued to cry out, 'I can write! I know how to write!' His cries of joy brought the other children, who formed a circle about him, looking down at his work in stupefied amazement. Two or three of them said to me, trembling with excitement, 'Give me the chalk. I can write too.' and indeed they began to write various words: *mama, hand, John, chimney, Ada.*

"Not one of them had ever taken chalk or any other instrument in hand for the purpose of writing. It was the *first time* that they had ever written, and they traced an entire word, as a child, when speaking for the first time, speaks the entire word.

"The first word spoken by a baby causes the mother ineffable joy. The child has chosen perhaps the word 'mother,' seeming to render thus a tribute to maternity. The first word written by my little ones aroused within themselves an indescribable emotion of joy. Not being able to adjust in their minds the connection between the preparation and the act, they were possessed by the illusion that, having now grown to the proper size, they knew how to write. In other words, writing seemed to them only one among the many gifts of nature.

"They believe that, as they grow bigger and stronger, there will come some beautiful day when they *shall know how to write*. And, indeed, this is what it is in reality. The child who speaks, first prepares himself unconsciously, perfecting the psycho-muscular mechanism which leads to the articulation of the word. In the case of writing, the child does almost the same thing, but the direct pedagogical help and the possibility of preparing the movements for writing in an almost material way, causes the ability to write to develop much more rapidly and more perfectly than the ability to speak correctly.

"In spite of the ease with which this is accomplished, the preparation is not partial, but complete. The child possesses *all* the movements necessary for writing. And written language develops not gradually, but in an explosive way; that is, the child can write *any word*. Such was our first experience in the development of the written language in our children. Those first days we were a prey to deep emotions. It seemed as if we walked in a dream, and as if we assisted at some miraculous achievement."*

The usual interval between the first preparation for, and the accomplishment of, writing is about a month and a half in the case of children of four years of age. For children of five years a month is usually sufficient. When the period of preparation is over, the average child finds that he can write any simple word, using ink almost from the very beginning. After three months most of the children write a good hand; and those who have been writing for six months are as a rule quite on a par with children of the third elementary class in the "public schools," *i.e.*, in what we should call the "schools for older children."

The child who has learned to write words has, as we have seen, learned the sounds as well as the shapes of the letters, and has been practised at building up the letters into words, and the sounds of the component letters into the resultant sounds of the words which they compose. The time has now come for him to learn to *read*, *i.e.*, to interpret the sounds of words which he has not built up himself, but which someone else has written or printed and set before him. The practice of word-building which he has already had, makes it easy for him to master the art of reading. The teacher gives him a piece of paper or cardboard on which is written in clear handwriting a word which he knows well, if possible the name of an object that he can see. He reads it out, sound by sound, just as he "composed"

* Op. cit., pp. 287 and 288.

when writing. The teacher says, "forta, forta," until at last the sounds of the component letters coalesce into the sound of the word as a whole and the child then realises what the word is and what it is the name of. Then the teacher places the name beside the object, and the child goes on to another word. Sometimes as many as a dozen papers or cards are given out to a child, who wanders round the room collecting the objects named, which he then lays on the table beside their respective papers, and invites the teacher to come and inspect.

From single words the children pass on to phrases and sentences, the blackboard being used for the purpose, the teacher writing brief questions which the children answer, or orders which they put into execution. The children are then ready to take part in the following game, which seems to be a general favourite.

Papers are drawn from a bag by the children on which are written long sentences describing actions which they are to carry out, such as "Shut the window and open the outside door" or "Ask each of your companions very politely to get into line, and make them walk round the room on tiptoe." Each child takes his own paper, reads its contents silently once or twice, then gives it back to his teacher and sets off to perform the required action.

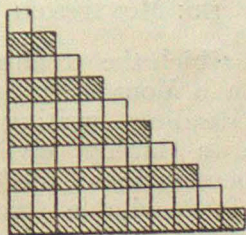
The rapidity with which, under the Montessori system, children learn to read and write, and the early age at which they master both these accomplishments, will astonish those who are familiar with English infant schools, and may well give pause to those educationalists who are now contending, as Dottorressa Montessori herself once did, that children should not be allowed to read or write till they have reached the age of seven or even eight. It is possible that Italian children ripen earlier than English children: it is more than probable that the methods by which reading and writing are taught in most English schools put a greater strain on the minds of the children than the Montessori methods which I have just described; and it is certain that the "notation" of the English language is much more irregular than that of the Italian language, which is indeed the most regular of all languages, just as English is, I believe, the most irregular. But I am told that even in Italy children who learn to write by the conventional methods take years to accomplish what the Montessori children do in a few months or even weeks, and that their initiation into the art of reading is a correspondingly slow process; and, on the other hand, that individual English children who have been taught by the Montessori system have learned to read and write as rapidly and at as early an age as the Italian children in the Montessori Schools.*

* Miss Tozier tells of a little boy, aged only $3\frac{1}{2}$, who, "without realising that he has as yet done anything more than play," can read and write both in English and in Italian.

* The truth is that the Montessori system enables young children to learn reading and writing without mental strain. And this is not the whole of the truth. The idea that children will learn reading and writing more easily and with less mental strain at the age of seven or eight than at the age of four or five, is a pre-conceived notion which rests, as far as I can see, on no solid foundation. Between the ages of one and two every normal child learns, untaught and unaided, to talk and to walk; and it is conceivable that there are things which a child learns to do more easily, and with less mental strain, before than after the awakening of his self-consciousness. At any rate, whatever else Dottoressa Montessori has done, she has fully proved that reading and writing can be taught to quite young children—to “babies,” in fact—without over-taxing their brains, and without their realising that they are doing anything but playing at interesting games.

ARITHMETIC.

Arithmetic is taught by methods analogous to those which have just been described. Concrete things are used, and various games are played which attract and interest the child from the very beginning. Counting is taught by means of the series of striped poles which are used in training the perception of length. There are ten of these, the longest being a metre and the shortest a decimetre in length, and they are all divided into lengths of a decimetre painted alternately red and blue. The child learns to arrange these poles in order of length, thereby producing a ladder which counts 10 in each of the three directions, thus:—



The child corrects himself if he makes a mistake, for the stripes must alternate regularly. Counters are also used, the child arranging them thus on his table &c.

and so getting at once the idea of *odd* and *even*. Then he is introduced to raised emery paper figures, which he deals with as he dealt with the raised letters, mastering their forms by the joint action of his senses of touch and sight, learning their names and then placing them beside their respective lengths on the red and blue ladder, or their respective groups of counters or any other groups of objects. He then learns how to “compose”

10 by adding 1 to 9, 2 to 8, 3 to 7, &c. Various games are played which enable the children to remember the numbers, and also to realise that 0 (zero) means *nothing*. The simpler arithmetical processes with their technical terms and symbols (plus +, minus -, &c.) are next taught. Then the child learns that $9 + 1 = 10$, $10 - 2 = 8$, &c. This he can be shown on the board and do for himself on slate or paper, always verifying his results with the counters. When he has thoroughly mastered the numbers up to 10, he advances to higher numbers, for dealing with which other exercises are employed and a different apparatus is used.

I will not go further into the details of the Montessori method. Those who wish to study it more fully can do so in Dottressa Montessori's own book, an English translation of which has recently been published. They will find that, whatever may be the subject taught, the method is such as to enable the child of tender years to educate himself, with the maximum of success and the minimum of strain. It is in the interest of the master principle of self-education (or self-realisation, to use a word with a wider range and greater depth of meaning) that the method has been planned and the apparatus designed.

"The old-time teacher, who wore herself out maintaining the discipline of immobility, and who wasted her breath in loud and continual discourse, has disappeared. For this teacher we have substituted the *didactic material*, which contains within itself the control of errors and which makes auto-education possible to each child. The teacher has thus become a *director* of the spontaneous work of the children. She is now a *passive* force, a *silent* presence."*

AIM OF THE MONTESSORI SYSTEM.

The prominent part which the teaching of reading, writing and arithmetic plays in a Montessori School is perhaps open to misinterpretation. Reading, writing and arithmetic are "subjects" which, in a highly civilised community, are rightly regarded as "necessaries of life"; and it was therefore natural and almost inevitable that in the Montessori system the mastering of these subjects should be kept steadily in view. But it must not be imagined that the end and aim of the system is to teach reading, writing and arithmetic to young children, with the maximum of success and the minimum of strain. The end and aim of the system is to lead young children into the path of self-realisation, to put them in the way of educating themselves. Considerations of utility may have determined the choice of the channels into which the activities of the children were to be directed; but the fact remains that the channels were, and are, valued for the sake of the activities, not the activities for the sake of the channels.

* Op. cit., p. 371.

Admirable as is the Montessori method, and worthy as it is of the most close and careful study, Dottorressa Montessori, with her love of freedom, would be the last person to contend that it does not admit of modification, or to insist that every teacher who has become a votary of her gospel must apply the method in her own school in all its detail. Dottorressa Montessori would rather say: "Let the teacher who has accepted and mastered my leading principle, and who has studied my method both as a whole and in all its detail, make such modifications in it, or improvements on it, as her own thought and her own experience may suggest to her."

GENERAL FEATURES OF THE SYSTEM.

I will now say a few words about some of the more general features of the Montessori system.

Discipline.—The discipline of our English infant schools is much freer and less rigid than it used to be; yet even the most enlightened of our infant mistresses would be somewhat disconcerted by the free-and-easy, go-as-you-please air of a Montessori school. That a school should have no classes, no collective lessons, and no time-table, and that each child should be free to do whatever he pleased, whenever he pleased, is a state of things to which it would take her some little time to adjust her mental focus, though sooner or later she would, I feel sure, convince herself that there was order—in the truest sense of the word—at the heart of the apparent chaos. Dottorressa Montessori has always protested against the assumption that good order and immobility are interchangeable terms. She is no advocate of lax discipline; but she holds that we must revise our conception of discipline, especially when we are dealing with young children, for whom bodily exercise and freedom of movement are among the first conditions of healthy and happy life. A repressive system of education, which compels children to do what they do not want to do, and holds in check their healthy and natural activities, has made repressive discipline a necessity if any semblance of progress is to be made. The function of discipline, in a school of the conventional type, is to shut down and sit upon the safety-valve of "naughtiness," a safety-valve which the children's spontaneous energies, when wantonly repressed, instinctively try to use. In a school in which the energies of the children are constantly and happily employed, that safety-valve has never to be used, and the need for repressive discipline ceases to be felt. In a Montessori school each child is given the maximum of freedom that is compatible with his not hurting or incommoding others; and so long as he is busily and suitably employed he is not likely to hurt or incommode others, or to make himself a nuisance to the school as a

whole*. The truth is that the discipline of a Montessori school is of so high an order that its apparent defects are found, when carefully studied, to be transcendent merits. It is the discipline of self-control—a type of discipline which cannot be evolved except in an atmosphere of freedom, and which is of lasting value for the reason that the children instinctively impose it on themselves. The confused noise which greets the stranger who enters a Montessori school is really the hum of a busy hive. Of disorderly noise there is not a trace. The mastery of their limbs and senses which the children have gradually acquired, has developed into a more general mastery of self. A friend of mine who has made an intensive study of of the Montessori system tells me that, having spent every morning of six consecutive weeks in Montessori schools—schools, be it understood, where children of the tenderest years are given almost complete freedom—he only once saw two children squabble. This fact speaks for itself. In the atmosphere of freedom—an atmosphere which is favourable to happy and harmonious growth—feelings of friendliness and goodwill and respect for the rights and just claims of others seem to germinate spontaneously, and there is as little need for the Montessori teacher to interfere between quarrelling children as for her to read the Riot Act to the school, even when the babel of noise is at its greatest height. And one can see at a glance that the children, who are radiantly happy in their school life,

* It sometimes happens that a newly-admitted child disturbs the other children, and pays no heed to what the teacher says. But such cases easily yield to Dottorressa Montessori's judicious treatment. She tells us in her book how she treats them. "We have many times come in contact with children who disturbed the others without paying any attention to our corrections. Such children were at once examined by the physician. When the case proved to be that of a normal child, we placed one of the little tables in a corner of the room, and in this way isolated the child; having him sit in a comfortable little armchair, so placed that he might see his companions at work, and giving him those games and toys to which he was most attracted. This isolation almost always succeeded in calming the child; from his position he could see the entire assembly of his companions, and the way in which they carried on their work was an *object lesson* much more efficacious than any words of the teacher could possibly have been. Little by little, he would come to see the advantages of being one of the company working so busily before his eyes, and he would really wish to go back and do as the others did. We have in this way led back again to discipline all the children who at first seemed to rebel against it. The isolated child was always made the object of special care, almost as if he were ill. I myself, when I entered the room, went first of all directly to him, caressing him, as if he were a very little child. Then I turned my attention to the others, interesting myself in their work, asking questions about it as if they had been little men. I do not know what happened in the soul of these children whom we found it necessary to discipline, but certainly the conversion was always very complete and lasting. They showed great pride in learning how to work and how to conduct themselves, and always showed a very tender affection for the teacher and form e." (Op. cit., pp. 103 and 104.)

are warmly attached to their teachers, and are ready, at a moment's notice, to obey their lightest word of command.

Rewards and Punishments are the concomitants of discipline of the conventional type. In a Montessori school there is no need for either stimulus. Unimpeded and skilfully directed activity is its own reward,—a reward which appeals so strongly to every healthy child that there is no need for it to be supplemented by any promise or any threat. There must be something wrong with the system of education under which children are set tasks of so uncongenial a nature that they must either be bribed or bullied into doing them. Rewards and punishments appeal to a relatively low range of motives; and the fact that such motives have to be appealed to is a proof that the child is working against the grain of his true nature, and that in doing so he is dissipating spontaneous energy in needless friction, and achieving results which have no lasting value.

There is, however, one reward which is to be had for the seeking in a Montessori school,—the delight which every healthy child takes in surmounting obstacles, and hitting a mark which has long baffled his aim. The desire to grapple with and overcome his difficulties by himself, to solve his problems by himself, to do by himself what he has never done before, is strong in every young child who has not been subjected to a repressive régime. This desire Dottoressa Montessori has taken advantage of to the full. The first impulse of the ordinary teacher is to tell the child how to do something which he has never attempted before. Her second impulse is to rush to the child's aid when, having been allowed to try his hand at something new, he is confronted by some difficulty, and is in doubt as to his next step. Her third impulse is to correct his mistakes for him, instead of leaving him to correct them by himself. The Montessori teacher must keep all these impulses under complete control. When a child in a Montessori school is going to make his first attempt at a given problem, he is left, as we have already seen, to his own devices. To the question of the onlooker, "Is not the teacher going to show him how to begin?" the answer is "An axiom of our practical pedagogy is "to aid the child only to be independent; he does not wish help." Dottoressa Montessori's faith in the resources of the child's nature—in his latent force of character, as well as his latent mental capacity—is unbounded; and in the strength of this faith she stands aside, and allows him to work out his own salvation, instead of closing in upon him with help and advice and direction, and (to use her own words), suffocating his life.

The defects in the Montessori system, are, I think, defects of omission, and of omission only. As far as it goes, it is wholly admirable; but I doubt if it goes far enough. For one thing, the range of the curriculum is too narrow. For another thing, there is no reason why the system should not be applied to children beyond the age of six or seven.

When I say that the range of the curriculum is too narrow, I mean that "subjects" are omitted from it in which young children take great pleasure, and the educative value of which is very high. Though the Montessori children are skilful colourists, both with brush and crayon, they do not attempt to draw, whether with pencil, crayon, charcoal, or brush. In Dottoressa Montessori's own words to me, "*Ils ne dessinent pas.*" Nor do they attempt to model.* Now drawing and modelling are "subjects" which are dear to the heart of almost every child, and in which, as we know from experience, even "infants" can do much and go far; and I am therefore at a loss to know why the Montessori pupil who has mastered the arts of reading and writing at the early age of four, and is doubtless sighing for new worlds to conquer, should not be allowed to try his hand at subjects which, as it happens, readily lend themselves to treatment on what I may call Montessori lines. If Dottoressa Montessori could visit St. John's Infant School, Aylesbury, for example, and see the children of six and seven standing up to their easels and drawing with a brush large branches of various evergreen shrubs, and other objects, with remarkable vigour and skill, and if she could visit other schools that I could name, while the children were engaged in modelling, she would realise how strong is the artistic instinct, and how much can be done, even in an infant school, to foster its growth.

Other subjects which find a place in the curriculum of the more enlightened infant schools in England, and which are omitted from the Montessori curriculum, are *dancing*, *acting*, the learning of *poetry*, and the listening to *stories*. I think I can guess why these subjects are omitted. For dancing and acting, concerted action is necessary. In other words, the children must either organise themselves or be organised by their teacher; and as they are too young to organise themselves, and as any attempt that their teacher might make to organise them would be an encroachment on their freedom, Dottoressa Montessori prefers that dancing and acting should be omitted, regarding this as the lesser of the two evils that confront her. Poetry and story telling are omitted (I imagine), for a somewhat similar reason. The child who learns poetry by heart or listens to stories is playing a comparatively passive rôle. His initiative is not being exercised. If these are Dottoressa Montessori's motives for omitting subjects in which young children seem to take a natural delight, I am half inclined to think she is pushing her concern for freedom and initiative a trifle too far. The value of the régime of self-education, with its atmosphere of freedom and its demand for initiative, lies in this, that it makes the best possible provision for the growth of the child's nature. But if growth is to be really healthy, it must be harmonious and

* An omission which is made the more remarkable by the fact that in Dottoressa Montessori's book on education, a whole chapter is devoted to the "*Potter's Art.*"

many-sided—it must be the growth of the child's nature as a whole; and so long as the *dramatic* and *rhythmical* instincts—to say nothing of the *artistic*—remain undeveloped, the growth of the child's nature is inharmonious and one-sided, and is to that extent unhealthy—however exuberant it may be—even within the limits which have been deliberately imposed upon it. I say all this with considerable diffidence, partly because I may have misinterpreted Dottoressa Montessori's motives, and partly because she has gone far more deeply into the science of pedagogy than I have. But even if her reasons for omitting the subjects which I have named* were convincingly strong, I should regard their omission from the curriculum of an infant school as a "hateful necessity," and should look forward to their inclusion in the curriculum of any upper school which might happen to be conducted on Montessori lines.

At present such an upper school is not to be met with. That Dottoressa Montessori will herself extend her system to the upper school I regard as certain, for as I have already suggested, the expansive force of her own master principle will sooner or later compel her to do so. But she has the patience and circumspection of a trained experimenter, and it is unlikely that she will take any forward step until she is reasonably sure of her ground. The one attempt that has been made to introduce her system into an upper school, though very interesting and (as far as it has gone), entirely successful, is not really an

* I am glad to learn from Dottoressa Montessori that the apparent omission of drawing, modelling, and dancing from the curriculum of the schools that I visited is due to those schools having been but recently opened, and to the system, as carried out in them, being therefore still in its infancy. She assures me, through the medium of our kind interpreter, Signora Maraini Guerriere-Gonzaga, that "drawing, dancing, modelling, " all kinds of artistic expression, are not only included, but have the same " important part in her programme as they have in human life."

She also tells me that, since I left Rome, dancing and drawing have *spontaneously* come into being in the Franciscan Convent School in the Via Giusti. "One day the children of their own accord began to move " rhythmically with the music; and with the least bit of guidance, in " fact no more than a few hints, they gradually invented dances of their " own, which grew out spontaneously from their sense of rhythm, when it " had awaked. To have waited for this was the virtue of Signorina " Maccheroni (the head teacher) In the same school the " children one day began by themselves to draw freely, though in very " primitive fashion."

I quite agree with Dottoressa Montessori that these spontaneous outbursts of artistic expression are worth waiting for; but care would have to be taken that the children were given every opportunity of expressing themselves when the spirit moved them to do so, and that such guidance as was really needed was not withheld from them.

I must add that having recently (May, 1912) revisited Rome, I find that the curriculum in the Montessori schools has been in no respect widened since my former visit. In justice, however, to Dottoressa Montessori, it must be stated here that, with the exception of the experimental class for older children, not a single Montessori school is under her full control, whilst one (the Franciscan Convent School) is under her partial control.

extension of her system beyond the limits of the infant school, but rather the application of it *de novo* to ignorant and neglected children of the ages of six and seven. Signora Galli-Saccetti, the able and intelligent directress of the Girls' School of St. Angelo in Pescheria—a school in a poor and slummy neighbourhood*—having studied the Montessori system for two years, and convinced herself of its soundness, determined to introduce it with a few minor modifications, into the lowest class of her school. That class, which, in an English school of 15 years ago, would have been known as Standard 0, is composed of girls of six and seven who were entirely ignorant when admitted. When I visited the school on March 20th, the system had been in force barely two months; but it had already worked wonders. It was found that, for these older children, three weeks of sense-training were sufficient. When that period of preparation was over, writing, reading and arithmetic were “taught” (if I may use that word), by the methods which have been already described. How far the girls had got in five weeks, the reader will judge for himself, when I tell him that one girl of seven, who had been a hopeless ignoramus when admitted, wrote in my presence, to her teacher's dictation, the following sentences, which, at the teacher's request, I selected—and wrote them in an excellent round hand and without a single mistake: “L'acqua è liquida; il marmo è solido; il gas è aeriforme.” “La Rita è occupata ad aggomitolare una matassa di filo di cotone.”

But, as I have said, this experiment, however valuable and significant it may be, is not an attempt to extend the Montessori system beyond the limits of the infant school. What I look forward to is the day when children who have passed through a Montessori infant school, will enter an “upper” school, conducted on Montessori lines, the system having been adjusted, under the direction of its own master principle, to the needs of older children,† and will there go on from strength to strength till they have to leave school and go out into their

* It is interesting to note that the poor children who attend this and the Franciscan School, take to the “system” much more readily than do the young aristocrats who attend the Casa dei Bambini di Pincio. The latter seem to lack the power of concentration, and are apparently more interested in what their neighbours are doing than in what they are supposed to be doing themselves. As Signora Galli-Saccetti remarked to me, “the poor children are already in the system.” In other words, from very early days they have to look after themselves (and their younger brothers and sisters), and shift for themselves, and do things by themselves, so that they take to the Montessori system, with its demand for independence and spontaneous effort, as readily as ducklings take to the water, whereas the young aristocrats, who have had far too much done for them, make but a feeble response to its stimulating appeal. It is a consolation to know that educative influences are at work even in the slums of our large towns.

† Dottressa Montessori has recently started an experimental class for older children.

little world. That when that day comes, the children will go very far, may safely be predicted.

COST OF A MONTESSORI SCHOOL.

A Montessori infant school is a somewhat costly school both to build and to run. Instead of 9 square feet per child, at least 15 ought to be allowed if the children are to have the freedom of movement which the system demands, for the amount of open floor space ought to be as large as the space which is covered with chairs and tables. The apparatus is costly, and demands much storage room; and the cupboards should be so arranged that the children can have easy access to them. The staff ought to be large, and a majority of the teachers ought to be thoroughly trained. Signora Galli-Saccetti, who is a teacher of great ability and wide experience, tells me that under the Montessori system no teacher can do justice to more than about 20 children, but that a trained teacher with an untrained assistant could handle nearly double that number. But compensation for the cost of staffing the Montessori infant school would, I think, be found in the boys' and girls' schools if the system were introduced into them. My experience has convinced me that where children are trained to educate themselves, the number of children per teacher may be steadily increased as we ascend the school.

CONCLUSION.

That no one should attempt to work by the Montessori system who does not understand her business is, I think, obvious. In the first place the teacher must have firmly grasped and fully accepted the Montessori principle of self-education. In the second place she must, if possible, have attended one or more courses of Dottressa Montessori's lectures. And in the third place she must have had weeks—to say the least—of practical experience in a Montessori school. One of our enlightened infant mistresses, who happened to be in sympathy with the general idea of self-education, who had an open and unprejudiced mind, and who could bring the eye of experience to bear on what she saw, could learn much from a few visits to a Montessori school. But for young teachers a long apprenticeship is essential, and it would be a mistake from every point of view if the Montessori method were to be introduced, under compulsion, into schools where the teachers, whether through want of sympathy, or want of training, were unable to do justice to it.

I have perhaps said enough to show that the Montessori system is worthy of a more careful and thorough investigation than I was able to give it. Its master principle is revolutionary in the extreme, for it is scarcely an exaggeration to say that the

dogmatic method, with its demand for mechanical obedience and its pursuit of external results, is of the essence of the civilisation, as well as of the education, of the West. But when a system which is a challenge to all our preconceived notions, is also strikingly successful, when tried under reasonably favourable conditions, its claim to be taken seriously and studied with care becomes overwhelmingly strong.

Before concluding, I will try to answer a question which will probably have occurred to many readers. In what respects does the Montessori system differ from the Froebellian? The difference between a Montessori elementary school and a Kindergarten elementary school of average, or even of superior merit, is very great. For one thing, the Kindergarten teacher stands in front of the children doing her best to amuse and interest and vitalise them, whereas the Montessori teacher moves quietly among them, helping them to amuse and interest and vitalise themselves; and this difference is typical of many more. Yet, as regards first principles, Froebel and Dottoressa Montessori see eye to eye. Why, then, do the results which their respective systems produce differ so widely? For many reasons, but chiefly because Froebel lived a hundred years ago, and Dottoressa Montessori is living now.

The name of Froebel will always be held in very high honour, if only because he was the first* of modern educationalists to re-discover the master principle that the function of education is to foster growth. "Re-discover," I say advisedly, for Plato had expounded the same principle more than 2,000 years before; and Plato's discovery of it was also a re-discovery, the parent idea of self-realisation being of the essence of the "ancient wisdom" of India. The truth is that every great idea and every great principle needs to be re-discovered again and again. In the sphere of religion there is a comparatively rare but very real phenomenon called "conversion," and "conversion" has been happily defined as "the effective realisation of admitted truth." Now, if admitted truth, of whatever kind, is to be effectively realised, each of its votaries must in some sort re-discover it for himself; and the re-discovery of a deep spiritual truth by the individual conscience produces that effective realisation of it which we call "conversion." Strictly speaking, every great idea and every great principle ought to be re-discovered by each of us. But, perhaps, this is to ask too much of human nature. So I will take a broader view of things, and say that every great principle of action needs, for its own sake, to be re-discovered at least once in each generation. Otherwise it will run the risk of being radically misinterpreted, through the failure of its adherents, as they sink deep into the grooves of tradition and routine, to adapt it to an ever-changing environment; and the end of this devitalising process will be

* The first to re-discover it fully. A partial re-discovery of it is made by almost everyone who thinks seriously about education.

that the letter of the Master's teaching will establish itself at the expense of the spirit. In the sphere of education this triumph of the letter over the spirit will take the form of the method in which the Master embodied his paramount principle, coming to be valued as machinery instead of as the outward and visible expression of an inward and spiritual life.

Dottoressa Montessori is great, then, because she has re-discovered Fröbel's master principle for herself, and, in doing so, has interpreted it anew, first in the broad and ever-broadening light of modern science, and then in the more concentrated light of her own reflections and experiments. Hence the many points of difference between the two systems. Fröbel approached education from the standpoint of theology and metaphysics. Dottoressa Montessori has been approaching it from the standpoint of modern physiology and psychology. In Fröbel's treatment of the subject there is a considerable element of a *priori* reasoning. Dottoressa Montessori's treatment of it is preponderatingly experimental. In theory, Fröbel left much to the child's initiative; in practice, comparatively little. Dottoressa Montessori leaves much to it, both in theory and in practice, her trust in the child's nature being the outcome of observation and experiment rather than an inference from a metaphysical assumption. And so on; and so on. In other words, Dottoressa Montessori is living a hundred years later than Fröbel and is adapting the principle to which Fröbel devoted his life, and to which she is devoting hers, to conditions which 100 years of scientific progress have profoundly modified.

E. G. A. HOLMES.

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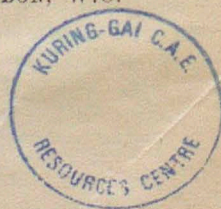
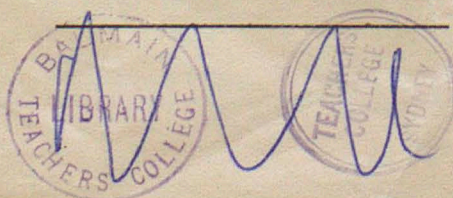
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